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Notes on the Birds of the South-Western Kalahari

by

T. FARKAS, Bloemfontein

1. Introduction

It is now twenty years ago that Smithers (1959) wrote about the South West Kalahari that it was „... renowned for its heavy travelling conditions brought about by the deep covering of Kalahari sand and the complete absence of surface water for some nine months of the year from March till November". Those conditions, prevailing since time immemorial in this part of what is now the Republic of Botswana, have changed little during the past two decades. The roads connecting a few tiny human settlements are lately made by simply bulldozing the bush aside from the old cattle tracks. As such, these roads are now more or less broad

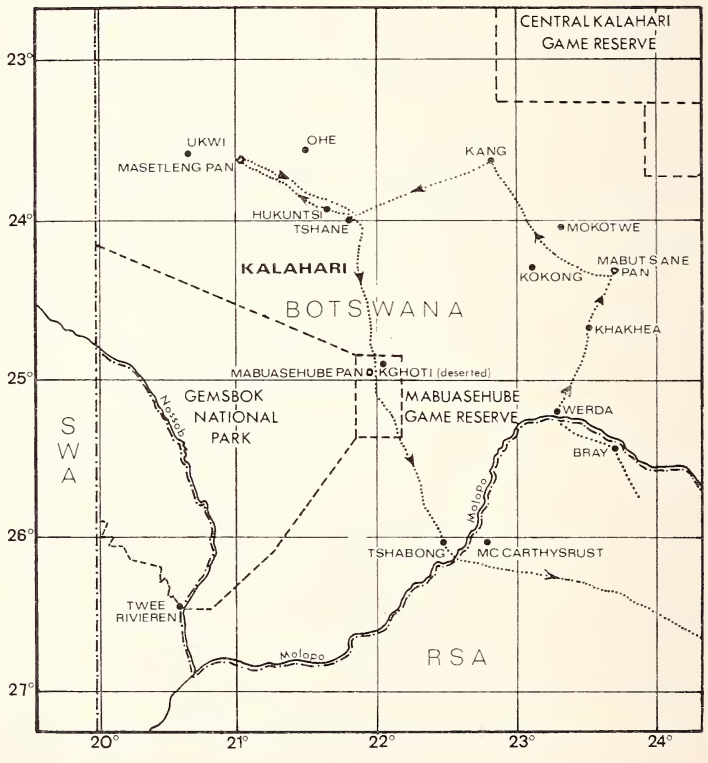

Fig. 1. Map of study area, showing the main route of the expedition.

and straight stretches of barren, deep sand, only negotiable with some measure of security by heavy duty, or fourwheel-driven vehicles. However, even with these vehicles it is often safer to get off the road altogether to the side where the surface of the sand is covered with some grass and herbs. Having these forbidding features in mind, it was a welcome opportunity to join a botanical collecting trip to the South-West Kalahari, offered by Mr. Isaac Barnard of Geysdorp, in Western Transvaal to his friends in the Botanical Survey in Pretoria. I have some earlier experience with the bird life in the Western Transvaal (Farkas, 1962 and 1966), and have also made a few trips to the Kalahari Gemsbok Park and to South West Africa. Therefore, Mr. Barnard's kind invitation was a pleasant challenge to devote myself to the most intense field investigations during the relatively short time I had at my disposal in order to get familiar with the birds of this remoted corner of Southern Africa.

On the morning of the 27th December, 1976, we crossed at the border post Werda into the Republic of Botswana, and returned again to the Republic of South Africa, at the border post McCarthysrust on the 6th January, 1977. After having entered Botswana, our expedition followed the route shown in the map. The first day we moved up to Mabutsane pan. The next day we proceeded via Kang and Tshane to Hukuntsi; from there we turned northwestwards, to the Masetleng pan, some 100 km north of the northern border of the Botswana Gemsbok National Park where we camped out for four days, exploring the area in various directions. On the evening of the 1st January we have had to return to Hukuntsi. There we spent another night and the next morning, after having taken in water and fuel supplies, we went off to camp at Mabuasehube pan in the similarly named Game Reserve, east of the Gemsbok National Park. With our water reserves once again depleted, and the last night royally entertained by a magnificient quartett of Kalahari lions next to our camp kitchen, early morning on the 5th January we broke up camp at the pan and reached the first available water at Tshabong some 20 km north of the Molopo River.

As during the whole expedition I enjoyed the privilege of just sitting back in my seat while being driven around by my friends, I could fully concentrate on scenery and bird life and make notes, even while moving from camp to camp

Fig. 2. Cattle and goat herds grazing at the shore of the dry Mabutsane pan.

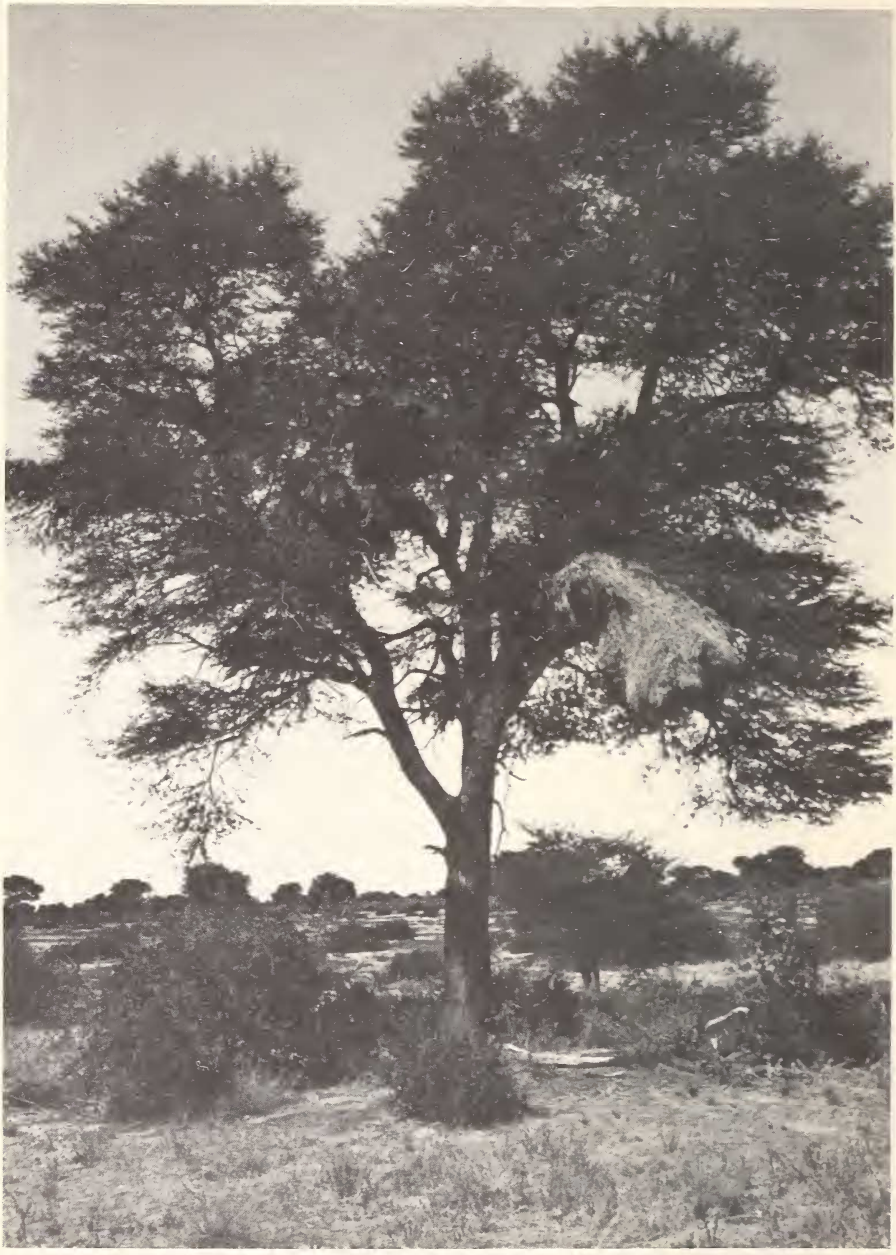

Fig. 3. Nest colonies of *Philetairus socius* on *Acacia* tree between Hukuntsi and Masetleng pan.

Fig. 4. Wooded savanna near the shore of the great Masetleng pan.

Fig. 5. Savanna bush between Tshane and Mabuasehube pan.

whilst our heavy vehicles milled red sands under the cloudless, hot sky of the Kalahari. Before compiling the present report I have compared my field records with those of Smithers (1959 and 1964), Prozesky and Haagner (1962), and Maclean (1970), who, particularly Smithers, have also considered collecting and surveying field work carried out previously in this geographical area by other authors and collectors.

I wish to extend my sincere thanks to the following gentlemen: Mr. I. Barnard, our generous host, Mr. Wencelois Coetzer, a keen observer of birds whose enthusiastic support has more than doubled the effectiveness of my field observations, and Messrs. F. Bruwer and J. Botha for their hospitality and great helpfulness, both being owners of small trading posts, the only sources of water and fuel without which no movement is possible in these vast areas.

2. Study area

2.1. Topography

The route of our expedition cut across the central part of Smithers' (1964) Southwestern Kalahari avifaunal area of Botswana. This, in the broader southern-african zoogeographical setup, is regarded by Winterbottom (1974) as only a part of the Kalahari Sandveld sub-district of the Southwestern Arid district. As such, this sub-district does additionally comprise Smithers' Central Kalahari avifaunal area as well as certain bordering territories of South West Africa in the West, and Northern Cape in the South. It also should be noted that Smithers' avifaunal delimitation of Botswana has been based on vegetation patterns which obviously do facilitate a distinction between the Central and Southwest Kalahari. In turn, the main distinguishing feature of Winterbottom's Kalahari Sandveld subdistrict is its impoverished avifauna, if compared with that of the Damaraland sub-district further west to which it is nearest related. Whichever of the above-mentioned delimitations we may adopt, the present observations were actually carried out in their heartland: we moved around in the area stretching roughly from 23°30' S to 26°10' S and from 23°45' E to 20°50' E, the altitude of which varies between 1000 and 1200 m a.s.

Morphologically this area does not offer too much variability. It is either flat, or gently undulating country without any trace of dramatic scenery. The surface is covered by a blanket of red to greyish sand of varying thickness, commonly between 12 to 15 m deep, but dephts of 70 m and more are also recorded (Du Toit, 1954). This sand is regarded as having been transported there from the southwestern coastal dunes by strong prevailing winds during more arid periods of the Lower and Middle Plei-

stocene ages. Being, therefore, in geological terms, of a quite young origin, these sands rest upon a thick bed of mainly calcareous sandstones which becomes increasingly rich in lime toward its top and is indeed covered there by a sheet of white limestone of freshwater origin. Wherever this sheet has come near enough to the surface, the combined workings of rain and strong winds have carried away the sand first, and have subsequently exposed the limestone to their eroding powers. This, in the long run, has resulted in a great but shallow pan with a flat, roundish to oval shaped floor. After some good rains these pans can be filled with a few cm deep, mostly somewhat brackish water for several weeks. Pans are a typical feature of our area of investigation, particularly around, and to the west and southwest of Hukuntsi.

Vast herds of animals, as Passarge (1905) first suggested, could have also considerably contributed to the forming of pans by trampling, drinking, and wallowing in the shallow water and mud, and so removing through the millenia huge amounts of material from the pans, either dissolved in the water they drank, or as mud sticking to their bodies. Since these pans contain water only for a short part of the year, the following complementary hypothesis is suggested for the remaining dry part of the year: The vigorous trampling by huge herds turn the dry mud on the pan's floor into dust which is then carried away by the wind. I saw this hypothesis convincingly demonstrated at the great Masetleng pan. There daily several hundreds of springbok *(Antidorcas marsupialis),* gemsbok *(Oryx gazella),* eland *(Taurotragus oryx)* and blue wildebeest *(Connochaetes taurinus)* congregated on the pan floor for licking the thin salty crust which remained after the water from the last rains had evaporated. Filing in from all directions, these herds were heralded by fawn-coloured dust clouds, howering above the sandy rims of the pan. After entering the floor, the animals started to lick and repeatedly to kick and scratch the crust with sharp hooves and horns, swirling up again waves of faint, whitish dust clouds. To sum up, this other biological effect on pan-forming could have been incomparably stronger in prehistoric times when the herds of these herbivores were vaster and more numerous than at the present.

Whilst in the East of our area flatness prevails, the scenery becomes rather faintly undulating when proceeding west- and soutwestwards, caused by long, bush-covered low dunes. Though, in the East where the sandstones of the Kalahari bed rest upon the outliers of the archaic Waterberg System, the red to purplish grits and quartzitic sandstones of the Waterberg outcrops near Khakea and Tshabong form a few stony kopjes amid the red sea of sand.

There are only two rivers, either bordering, or near to our area — the Molopo in the South, and the Nossob in the West. Both are, however, extremely periodical and as such, flowing irregularly, only after some strong cloud burst or protracted good rains for a limited period, but lying dry between in, sometimes for years. The Molopo has along its middle and upper section a discontinuous fringe of dry riverine bush, supporting a variegated bird life.

2.2. Climate

The southwestern Kalahari is a semiarid area, falling entirely into the 200 mm mean annual rainfall zone. This modest amount of precipitation comes as a rule during the summer months (Maclean, 1970) ... if it comes. This feature can be attributed mainly to two phenomena; first, due to the relief and some other factors, there is am marked decrease in annual rainfall means, proceeding from east to west throughout the subcontinent south of 20° S, except the Southern and Southwestern Cape (Jackson and Tyson, 1971). Second, this decrease is accompanied by a relative variability of the annual rainfall means which is, however, increasing in the same east-west direction. Practically, this means that the more we proceed to the West, the more erratic and unpredictable become the diminishing precipitations. In the study area this variability could be about 40 %, but no reliable data are available as yet.

Our area is also within the range of the highest southern-african mean annual sunshine zone of 9 hours p. d. which means a minimal cloud cover — about two tenths — even during January. As a result of cloudlessness and dry air, about 70 % of the incoming solar radiation reaches the surface here, most of which is direct, non-diffused radiation. As can be expected from such a high energy intake, the Kalahari belongs also to the hottest areas on the subcontinent. It has, however, also one of the greatest daily and annual temperature ranges. The average of daily maxima during the summer can vary locally between 32°—35° C, and daily maxima above 40° C can be expected at least once a month (Jackson and Tyson op. cit.). The winter is mild with daily temperatures over 21° C during the day, but the nights are cool and cold with light frosts quite regularly.

2.3. Vegetation

A comprehensive botanical survey, similar to that of South Africa by Acocks (1953), has yet to be made for Botswana. But, even without such a survey we may assume that the Molopo River does not constitute a biogeographical barrier of any importance between North and the South. Consequently, it is quite safe to say that the Kalahari Thornveld and Shrub Bushveld (subtype No. 16, Acocks, op. cit.) vegetation forms, occupying Gordonia, Kuruman, Vryburg and Mafeking districts of the Northern Cape extend deep into the Southwestern Kalahari in Botswana, gradually giving way to the scrubby savanna and open grassland to the North (Smithers, 1964). A recent short account on the vegetation of our study area (Broomberg and Jeppe, 1976) seems not only to support this assumption, but also refers to several plants they found in the more open eastern savanna which are typically associated with the Arid Sweet Bushveld (No. 14 of Acocks, op cit.), occuring in the Northwestern Transvaal along the Limpopo and Crocodile Rivers *(Grewia flava, Acacia detinens, A. heteracantha, Boscia albitrunca, Ziziphus mucronata, Terminalia sericea, Rhigozum obovatum, Cucumis naudinianus,* etc.).

Except for a broad fringe of fine, high thornbush along the Molopo River, we saw mainly open, scrubby savanna with patches of low shrubbery (mainly *Grewia flava* and *Acacia detinens)* with higher stands of *Terminalia sericea* on the first leg of our expedition, that is, between Werda and Mabutsane pan. The picture gradually changed between Kang and Hukuntsi in as much as the silvery stands of *Terminalia* became higher and more extended, and the Bushveld *(Tarchonanthus camphoratus, Olea africana, Buddleia salicifolia, Boscia albitrunca* etc.) and Thornveld (mainly *Acacia heteracantha* and *A. giraffae)* elements more numerous, forming clumps of dense thickets under the higher trees. In the western part those thickets richly dotted the wooded savanna, dominated by *Acacia haematoxylon* and *A. giraffae,* in some places – among others west of Masetleng pan — with fine, high stands of *A. giraffae* lacking any shrubbery in the understorey. There in the West the *Themeda*-type grass cover is also replaced by the conspicuous „white" grasses *(Aristida* spp., *Eragrostis* spp.) of the Kalahari. The woody savanna, varying with spacious clearings, dense thickets and roundish, white gleaming dry pan floors, embedded between low dunes, gave way around Tshabong to light bush on stony ground and hills, the latter sparsely dotted with smaller *Acacia* trees.

2.4. Human interference

As regards bird life the Southwestern Kalahari is still a largely undisturbed area. Thanks to the lack of surface water the thin population of pastoral African tribesmen has always concentrated around a few wells which provided them and their cattle with the indispensable water. The few small villages dotting the map all came into existence in this way. Since the limestone beds under the sand often carry good water reserves, some of these villages have more recently got boreholes which then subsequently facilitated a certain enlargement of cattle herds and other domestic stock, of which particularly the numerous goats are very conspicuous whenever one is approaching any of these little villages in the bush. The adverse effects of cattle grazing and trampling are clearly perceptible within a radius of a few km around each village; aggravated by goat grazing and firewood cutting of the villagers, they become disastrous for the vegetation in the immediate vicinity of the villages.

These adverse effects of the Africans' pastoral way of life on the natural vegetation and on a number of bird species associated with that vegetation are there to stay as long as cattle and goats make up the main livelyhood of the population. On the other hand, as Smithers (1959) has pointed out, the building of large thorny kraals for the cattle, and the opening of boreholes with the ensuing increase in numbers of watering throughs attracted a number of bird species to these places where they could not permanently settle earlier. Taking both these effects, adverse or favourable, into account, we can only conclude that as long as the human population of this inhospitable area remains at the same low level as it is to-day, it can affect only the immediate vicinity of the few available settlements, which is a very small area if compared with the vastness of this part of the country.

3. Systematic list

For the scientific and vernacular names reference is made to the South African Ornithological Society's List Committee's Check List of the Birds of South Africa (1969). Serial numbers are given to the names of families, genera and species, thus totalling up these taxa as enumerated in this report. Preceeding the specific names, the first serial number refers to the species and the second one (in brackets) to the genus concerned.

1. Struthionidae

1. (1). *Struthio camelus* L. **Ostrich**

A fairly common bird all over the area. As such, this species showed, however, a noticeable increase in numbers at the pans west of Tshane and in the Mabuasehube Game Reserve. At almost every pan we saw young chicks accompanied by adults, the latter invariably trying to divert attention from the young by feigning invalidness in front of the approaching vehicles.

2. Anatidae

2. (2). *Alopochen aegyptiacus* (L.) **Egyptian Goose**

The only record comes from Hukuntsi trading post, where a few were heard every night we spent at this camp. Their presence can be attributed to boreholes and cattle throughs at this place.

3. Sagittariidae

3. (3). *Sagittarius serpentarius* (Miller) **Secretary-bird**

Not common, but we saw almost daily a few of these birds, always walking around in the open, almost treeless tracts of the savanna. Except for a single immature, the others — all adults — were always seen in pairs.

4. Accipitridae

4. (4). *Gyps africanus* Salvadori **White-backed Vulture**

Between Kang and Tshane, also northeast of Hukuntsi, repeatedly seen gathered at lion kills.

5. (5.) *Aegypius tracheliotus* (Forster) **Lappet-laced Vulture**

Observed in the above-mentioned gatherings of vultures at carrion, this species was, however, less numerous than the previous one.

6. (6). *Milvus migrans* (Boddaert) **Yellow-billed Kite**

Sparsely, but generally distributed all over the area of this report.

7. (7). *Elanus caeruleus* (Desfontaines) **Black-shouldered Kite**

It was not uncommon near villages. At Kang we also saw two fledgelings, begging loudly their parents for food in mid-air.

8. (8). *Aquila rapax* (Temminck) **Tawny Eagle**

A few of these birds were seen soaring high in the cloudless skies, while some others were spotted perching on high trees between Hukuntsi and Mabuasehube pan. It seemed anyway to be less „numerous" than the following species.

9. (9). *Polemaetus bellicosus* (Daudin) **Martial Eagle**

For an eagle, quite common. This species was a regular daily sight during the whole expedition.

10. (10). *Circaetus pectoralis* Smith **Black-breasted Snake-eagle**

Seen only twice, north-west of Hukuntsi.

11. (11). *Terathopius ecaudatus* (Daud.) **Bateleur**

This eagle was almost daily met with during the whole expedition.

12. (12). *Accipiter minullus* (Daud.) **Little Sparrowhawk**

Only seen once, hunting small birds at Masetleng pan, north-west of Hukuntsi. Probably more common than this occassional observation could suggest it.

13. (13). *Melierax musicus* (Daud.) **Chanting Goshawk**

Seems to be quite a common bird all over the area of this report.

5. Falconidae

14. (14). *Falco tinnunculus* L. **Rock Kestrel**

A few were observed between the border post Bray and Khakea. Doubtful whether this species is entering any deeper to the West from there.

15. *Falco rupicoloides* Smith **Greater Kestrel**

Sparsely distributed in the park-like parts of the savanna, but only rarely seen in the western wooded savanna.

6. Phasianidae

16. (15). *Francolinus levaillantoides* (Smith) **Orange River Francolin**

In particular west of Hukuntsi, in the bush around the string of pans, where it seemed to be quite common.

7. Numididae

17. (16). *Numida meleagris* (L.) **Helmeted Guineafowl**

This bird was often met with along the Molopo River as well as in the bush around Kang and Hukuntsi.

8. Otididae

18. (17). *Eupodotis ruficrista* (Smith) **Red-crested Korhaan**

Judged rather by its peculiar „crescendo drumming" call than having actually

seen it, this Korhaan, skulking masterly among low bush and other thick ground cover, must be quite common in the area west and southwest of Hukuntsi.

19. *Eupodotis afra* (L.) **Black Korhaan**

Found quite commonly everywhere in the open grass sovanna.

9. Charadriidae

20. (18). *Vanellus coronatus* (Boddaert) **Crowned Plover**

Not uncommon all over the area, always in the open grass savanna.

10. Burhinidae

21. (19). *Burhinus capensis* (Lichtenstein) **Cape Dikkop**

More often heard calling at night than seen, this species seems to be widespread all over the area of this report.

11. Glareolidae

22. (20). *Rhinoptilus africanus* (Temminck)) **Double-banded Courser**

Seen a few times at the dry pans west of Hukuntsi. Probably more common, but evades observation by its quietness and protective colours.

12. Columbidae

23. (21). *Streptopelia capicola* (Sundevall) **Turtle Dove**

Huge concentrations seen around every village on account of the availability of water at such places.

24. (22). *Oena capensis* (L.) **Namaqua Dove**

Widespread, with noticeable concentrations as in the previous species.

13. Cuculidae

25. (23). *Clamator glandarius* (L.) **Great Spotted Cuckoo**

Two sightings only, both in the bush between Kang and Hukuntsi.

26. *Clamator jacobinus* (Bodd.) **Jacobin Cuckoo**

A single sighting near Khakhea, its call heard also at Mabuasehube pan.

27. (24). *Chrysococcyx caprius* (Bodd.) **Diederik Cuckoo**

Widespread and common in all wooded parts of the area as a whole.

14. Strigidae

28. (25). *Bubo africanus* (Temm.) **Spotted Eagle Owl**

Judged by its nightly calls this owl is not rare in all the wooded parts of the area.

15. Caprimulgidae

29. (26). *Caprimulgus europaeus* L. **European Nightjar**

At the Masetleng pan this species was clearly identified by its purring nightly call. Probably a common migrant to the area.

30. *Caprimulgus rufigena* Smith **Rufous-cheeked Nightjar**

The nightly calls of this species were often heard at Hukuntsi and west of it. Near the Masetleng pan a clutch of two was found on the debris-covered ground under a huge *Acacia*-tree, scarcely protected by some fallen twigs lying around on the ground. Mr. Barnard noted that on the same spot this Nightjar was also found breeding during the previous summer.

16. Apodidae

31. (27). *Apus apus* (L.) **European Swift**

Flocks of various sizes were seen over the whole area of this report.

32. *Apus caffer* (Licht.) **White-rumped Swift**

Seen a few in the company of the previous species around Hukuntsi, where it might breed on buildings.

17. Coliidae

33. (28). *Colius colius* (L.) **White-backed Mousebird**

Not uncommon in the dry bush along the Molopo River; also seen just south of Khakea.

34. *Colius indicus* Latham **Red-faced Mousebird**

Often met with all over the area, wherever there were tracts of higher shrubbery intermingled with a few trees.

18. Alcedinidae

35. (29). *Halcyon chelicuti* (Stanley) **Striped Kingfisher**

It was found to be a common and widespread species in the wooded parts of the area.

19. Meropidae

36. (30). *Merops apiaster* L. **European Bee-eater**

Several flocks of various sizes observed between Khakea and Tshane on their daily insect-hunting flights.

37. *Merops hirundineus* Licht. **Swallow-tailed Bee-eater**

This bird was regularly met with in wooded areas, in particular around Tshane and the Mabuasehube pan. Since this species seems to be strongly territorial at least during the breeding season, this factor, in coincidence with the availability of sand banks, antbear burrows and similar nesting facilities, might impose a limiting effect on its local distribution. A few birds carrying food to undetected nests were observed at Mabuasehube pan.

20 Coraciidae

38. (31). *Coracias garrulus* L. **European Roller**

Although not commonly, we met with this species regularly all over the area.

39. *Coracias caudata* L. **Lilac-breasted Roller**

It was a somewhat scarce, but widespread species in all the wooded parts of the area of this report.

40. *Coracias naevia* Daudin **Purple Roller**

It was the commonest Roller we met there. Similarly to its congenerics it was confined to tracts with at least a few higher trees, perching mostly on dead branches which stick out of the canopies.

21. Upupidae

41. (32). *Upupa epops* L. **Hoopoe**

Its local occurrence seems to be restricted mainly to the vicinity of human settlements. A few of them were, however, also seen at Mabuasehube pan.

22. Phoeniculidae

42. (33). *Rhinopomastus cyanomelas* (Vieillot) **Scimitar-billed Hoopoe**

Widespread and not scarce, wherever there are woods. Several family groups with fledged young were met with in the area west of Tshane.

23. Bucerotidae

43. (34). *Tockus nasutus* L. **Grey Hornbill**
Seems not to be scarce at least in the area between Khakea and Kang, but also met with a few times in the Mabuasehube Game Reserve.

44. *Tockus flavirostris* (Rüppell) **Yellow-billed Hornbill**

Widespread in the wooded parts all over the area.

24. Capitonidae

45. (35). *Lybius leucomelas* (Boddaert) **Pied Barbet**

A common bird wherever there are trees in the whole area.

25. Picidae

46. (36). *Campethera bennettii* (Smith) **Bennett's Woodpecker**

Only a few sightings in the wooded savanna, west of Hukuntsi.

47. *Campethera abingoni* (Smith) **Golden-tailed Woodpecker**

Probably the same pair seen a few times at Masetleng pan: like the previous species, this bird might be more common there than the few data suggest it.

48. (37). *Dendropicos fuscescens* (Vieill.) **Cardinal Woodpecker**

Widespread in all the wooded parts of the area, but not very common.

26. Alaudidae

49. (38). *Mirafra africana* Smith **Rufous-naped Lark**

A few of these birds were seen in the vicinity of Khakea.

50. *Mirafra apiata* (Vieill.) **Clapper Lark**

It was often heard singing over open grassland throughout the area.

51. *Mirafra africanoides* Smith **Fawn-coloured Lark**

Probably due to the very high daily temperatures during the whole expedition, we did not often see this quite common Kalahari Lark.

52. *Mirafra sabota* Smith **Sabota Lark**

A few singing males were heard between Tshane and Hukuntsi, and also north of Tshabong.

53. (39). *Eremopterix verticalis* (Smith) **Grey-backed Finch-Lark**

A quite common Lark all over the area. Several times we met with adults accompanied by fledged young.

54. (40). *Certhilauda albofasciata* Lafresnaye **Spike-heeled Lark**

It was not common, but met with all over the area of this report. Fledged young, either in the company of adults, or on their own were observed on several occasions.

55. (41). *Calandrella cinerea* (Gmelin) **Red-capped Lark**

This lark was often met with, in particular around pans with some grass growth near the shore.

56. *Calandrella starki* Shelley **Stark's Lark**

Observed at pans near Khakea and Tshane, it was not very numerous.

27. Hirundinidae

57. (42). *Hirundo rustica* L. **European Swallow**

It is a common,ever-present summer visitor to the whole area.

58. *Hirundo albigularis* Strickland **White-throated Swallow**

Seen several times near the Molopo, and again near Tshabong, often mixing in the flocks of the previous species.

59. *Hirundo rupestris* Scopoli **Rock Martin**

Seen near Hukuntsi and Tshabong, where it breeds on buildings.

28. Dicruridae

60. (43). *Dicrurus adsimilis* (Bechstein) **Fork-tailed Drongo**

Common, wherever there are trees. Several fledgelings seen near Hukuntsi and Tshabong.

29. Corvidae

61. (44). *Corvus albus* Müller **Pied Crow**

Seen mainly near villages, but also often at the numerous dry pans, west of Hukuntsi, looking for offal and carrion.

62. *Corvus capensis* Licht. **Black Crow**

Only a few individuals seen near Khakea, possibly a family with fledged young.

30. Paridae

63. (45). *Parus afer* Gmelin **Grey Tit**

A not uncommon bird in the wooded savanna, in particular around the dry pans in the West.

64. (46). *Anthoscopus minutus* (Shaw & Nodder) **Cape Penduline Tit**

This species was very often met with all over the area in the open, scrubby savanna. Several nests were also found, all deserted, indicating that breeding in this species takes place mainly before the onset of the summer in this part of Botswana.

31. Timaliidae

65. (47). *Turdoides bicolor* (Jardine) **Pied Babbler**

It was a common bird of the high bush and woods all over the area.

32. Pycnonotidae

66. (48). *Pycnonotus nigricans* (Vieill.) **Red-eyed Bulbul**

Whilst it was one of the commonest birds between Werda and Tshane, it was less so west of this line, and almost absent from the Mabuasehube area.

33. Turdidae

67. (49). *Turdus litsitsirupa* (Smith) **Groundscraper Thrush**

Seen only at a few occasions at Hukuntsi, and again near Tshabong; it was quite a shy bird, wherever met with.

68. (50). *Oenanthe pileata* (Gmelin) **Capped Wheatear**

Seen only at a single occasion at a dry pan west of Hukuntsi: it was a pair with fledged young. As Maclean (1970) found this Wheatear further southwest in the Kalahari Game Reserve to be a common, but migratory breeding species there, its scarcity in the area of this report might be connected with a shortage of nesting facilities (lack of rodent burrows, on which this species entirely depends for breeding).

69. (51). *Cercomela tractrac* (Wilkes) **Layard's Chat**

Seen only at Masetleng pan. Smithers (1964) did not mention this Chat in his checklist at all. However, regarding the season and circumstances of our observation (a pair was keeping a definite territory), this Chat might have bred there. By the way, the Karroid type vegetation, which fringes most of these dry pans in the whole area, is a preferred habitat type of this Chat in the Cape. So, it is presumable that this species occurs regularly in the Southwest Kalahari.

70. (52). *Myrmecocichla formicivora* (Vieill.) **Ant-eating Chat**

Occurring throughout the area, but nowhere numerous, this Chat is closely associated with the Antbear *(Orycteropus caffer)* because it diggs its own nesting hole into the entrance wall of that mammal's burrow. We have seen several families with fledged young; the latter have invariably taken refuge into the nearest burrow on the approach of our vehicles.

71. (53). *Cossypha caffra* (L.) **Cape Robin**

Occurs only in the fringing thickets of the Molopo River, where it is common.

72. (54). *Erythropygia paena* Smith **Kalahari Scrub Robin**

Except for the fully scrubless grass savanna, it was common all over the area of this report.

34. Sylviidae

73. (55). *Hippolais icterina* (Vieill.) **Icterine Warbler**

Several singing males heard at Kang and Hukuntsi, performing in the canopies of high trees.

74. (56). *Phylloscopus trochilus* (L.) **Willow Warbler**

Several birds heard calling and singing, from Werda up to Hukuntsi. Seems to prefer here trees as well as high and dense thickets.

75. (57). *Sylvietta rufescens* (Vieill.) **Crombec**

Although not really very numerous, this little Warbler was widespread in all the wooded areas.

76. (58). *Eremomela icteropygialis* (Lafresnaye) **Yellow-bellied Eremomela**

This tiny Warbler was quite common in the open, scrubby savanna all over the area, easily identifiable by its faint, thrilling call and pretty song, the latter always containing imitations of calls and songs of other birds in the habitat.

77. (59). *Cisticola aridula* Witherby **Desert Cisticola**

The call and typical wing-snapping of this Cisticola accompanied the expedition, wherever we travelled across tracts of treeless grass savanna.

78. *Cisticola rufilata* Hartlaub **Tinkling Cisticola**

It was common in open spaces with scattered, low scrub.

79. (60). *Prinia flavicans* (Vieill.) **Black-chested Prinia**

It was a common inhabitant of bush and woods all over the area visited by our expedition.

80. *Prinia pectoralis* (Smith) **Rufous-eared Prinia**

It was not uncommon in the low, matted scrub around pans west of Hukuntsi.

35. Muscicapidae

81. (61). *Parisoma subcaeruleum* (Vieill.) **Tit-Babbler**

It was a typical bird of the wooded savanna with bushes in the understorey, but absent from both the low scrub and high woods without undergrowth. Although there were many fledged young around, territorial singing in adult males was still in full swing.

82. (62). *Melaenornis mariquensis* (Smith) **Marico Flycatcher**

Occurs throughout the area in lightly wooded parts with some shrubbery in the understorey.

83. *Melaenornis infuscatus* (Smith) **Chat Flycatcher**

Replaces the previous species in open savanna with scattered, low scrub; in such places it was quite common throughout the area.

84. (63). *Batis pririt* (Vieill.) **Pririt Flycatcher**

The melancholic call of this tiny Flycatcher was a typical tonal feature of the high bush and wooded savanna with shrubbery in the undergrowth.

36. Motacillidae

85. (64). *Anthus novaeseelandiae* (Gmelin) **Richard's Pipit**

It was often met with in the grass savanna, also a few times seen on the shores of dry pans.

37. Laniidae

86. (65). *Nilaus afer* (Latham) **Brubru Shrike**

This rather elusive, little bird with flycatcherlike habits we met on all the woody stretches. Its typical, faint purring call was mostly heard from the canopies whilst the birds mostly remained hidden.

87. (66). *Tchagra australis* (Smith) **Three-streaked Tchagra**

Occured throughout the area, in wooded savanna and thick bush, although not ealisy detectable because of its skulking habits, foraging mostly silently in the thick understorey and on the ground.

88. (67). *Laniarius atrococcineus* (Burchell) **Crimson-breasted Shrike**

Not really numerous, but met with regularly all over the wooded savanna and thick bush; the birds moved mostly in pairs around, except for a few immatures we saw at Masetleng pan.

89. (68). *Lanius collurio* L. **Red-backed Shrike**

This palearctic summer migrant was quite common in all the bushy and wooded parts of the area, west of *Hukuntsi*. It was mostly detected perching on low bushes on the edge of woods and thickets. A few males have been heard emitting a continous, but low-volumed song.

90. *Lanius minor* Gmelin **Lesser Grey Shrike**

Although not often met with, this other palearctic Shrike was present all over the area of this report.

91. *Lanius collaris* L. **Fiscal Shrike**

Seen only along the Molopo River; there it was quite common.

38. Sturnidae

92. (69). *Creatophora cinerea* (Meuschen) **Wattled Starling**

A few small flocks observed in the area between Khakea and Tshane.

93. (70). *Lamprotornis nitens* (L.) **Cape Glossy Starling**

Seen widespread throughout the area, but nowhere abundant and moving around always in pairs. A few families with fledged young were also noted around Hukuntsi and Khakea.

94. *Lamprotornis australis* (Smith) **Burchell's Glossy Starling**

Seen a few times near Werda at the Molopo; also in the vicinity of Khakea and Hukuntsi.

39. Nectariniidae

95. (71). *Nectarinia fusca* (Vieill.) **Dusky Sunbird**

It was often met with between Mabuasehube pan and Tshabong; many of them independent fledgelings.

40. Ploceidae

96. (72). *Plocepasser mahali* Smith **White-browed Sparrow-Weaver**

Widely distributed and common near human settlements in wooded areas.

97. (73). *Philetairus socius* (Lath.) **Sociable Weaver**

West of Hukuntsi we saw several huge colonies, mainly built on *Acacia giraffae* trees. Thermoregulation in these colonies must be very effective indeed, for the considerable heat — between 36° C and 38° C every afternoon — affected neither the young, nor the activities of adults in these colonies.

98. (74). *Passer domesticus* (L.) **House Sparrow**

It was found to be present at every village throughout the area, although not yet very numerous.

99. *Passer melanurus* (P. L. S. Muller) **Cape Sparrow**

Abundant at every village, mixing freely with the previous species.

100. *Passer griseus* (Vieill.) **Grey-headed Sparrow**

A common and widely distributed Sparrow in all the wooded parts of the area of this report, but not attached to human habitations at all.